
Overview

This standard is about setting out and assembly of large commercial and passenger vehicle body parts and components as part of a complex/specialist build, modification or conversion. Selection of the most efficient and effective assembly method to use considering build factors and typically may involve more than two different joining techniques where the materials/components to be assembled may be non-standard, difficult to obtain or expensive.

The extent of responsibility requires work to a specification agreed with your supervisor. If, in the course of the work activity, this specification requires changing or modifying it is expected that you would use your knowledge, skills and experience to initiate an alternative route without compromising the quality of the assembly.

Performance criteria

You must be able to:

- P1. use the appropriate personal protective equipment when assembling vehicle body **parts and components**
- P2. support your assembly activities by reviewing:
 - P2.1. vehicle technical data, drawing and diagrams
 - P2.2. assembly procedures and techniques
 - P2.3. legal requirements
- P3. ensure that the specified components are available and that they are in a usable condition
- P4. select, prepare and use correctly all the tools and equipment required following manufacturers' instructions
- P5. assemble body parts and components following:
 - P5.1. manufacturers' data and instructions
 - P5.2. your workplace manuals and procedures
 - P5.3. health, safety, environmental and legal requirements
- P6. work in a way which minimises the risk of:
 - P6.1. damage to other vehicle systems, units and components
 - P6.2. contact with leakage and hazardous substances
 - P6.3. damage to your working environment
 - P6.4. injury to self and others
- P7. use the appropriate methods and techniques to assemble the components in their correct positions
- P8. secure the components using the specified connectors and securing devices
- P9. check the completed assembly to ensure that all operations have been completed and the finished assembly meets the required specification
- P10. deal promptly and effectively with problems within your control and report those that cannot be solved
- P11. ensure your records are accurate, complete and passed to the relevant person(s) within the agreed timescale and in the format required

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- P12. complete all assembly activities within the agreed timescale
 - P13. report any anticipated delays in completion to the relevant person(s)
promptly

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1. the legal requirements relating to the vehicle (including road safety requirements)
- K2. the implications on an Operator's Licence of not carrying out repairs and inspections correctly
- K3. the legislation and workplace procedures relevant to:
 - K3.1. health and safety
 - K3.2. the environment (including waste disposal)
 - K3.3. appropriate personal and vehicle protective equipment
- K4. your workplace procedures for:
 - K4.1. recording remove/replace information
 - K4.2. the referral of problems
 - K4.3. reporting delays to the completion of work
- K5. the work that needs to be done and the standard required
- K6. the extent of your own responsibility and to whom you should report if you have problems that you cannot solve.
- K7. who to refer to for the assembly tools and equipment that you are not responsible for maintaining
- K8. the importance of documenting assembly information
- K9. the importance of reporting the progress and completion of the build including the provision of information on the parts used, follow up work and potential problems
- K10. workplace procedures for determining the most cost effective/time efficient option
- K11. the relationship between time, costs and productivity
- K12. the hazards associated with working on or near high voltage electrical vehicle components

Use of technical information

- K13. How to find, interpret and use sources of relevant information to assist in determining the correct assembly techniques to be used

Tools and equipment

- K14. how to select, check and use all the tools and equipment required for the assembly of vehicle body parts and components and to know the control procedures for reporting any defects
- K15. the methods used to support large, heavy and fragile materials during the assembly process, including working at heights

Assembly methods and techniques

- K16. the preparation methods required for the assembly methods that you use, for example, substrate preparation when adhesive bonding
- K17. the assembly sequences used, for example, riveting roof panels and fitting glazing units
- K18. the conflicting and supporting variables which determine the choice of assembly method used, for example, tolerance, quality, customer requirements, the materials being joined, costs and timescales
- K19. the need for adherence to the assembly sequence to ensure the work activity can be completed without hindrance and/or modified to cater for contingencies
- K20. the need for assembling components temporarily, including, checking alignment, profile, dimensions, correct operation and to allow other work to be carried
- K21. the methods used to check compliance with specification, including checks for correct operation, accuracy, alignment and profile, and security of components/parts

Scope/range

1. Assembly **methods and techniques** include:
 - 1.1. Fasteners and retainers
 - 1.2. Adhesives
 - 1.3. Gaskets (e.g. Indirect glazing)
 - 1.4. Lifting and supporting equipment
 - 1.5. Manual Lifting and carrying
 - 1.6. Positioning and securing
 - 1.7. Setting out to include alignment and dimensional accuracy

2. **Parts and components** include:
 - 2.1. Exterior claddings
 - 2.2. Interior claddings
 - 2.3. Floor structure
 - 2.4. Frame and structural components
 - 2.5. Interior trim
 - 2.6. Exterior trim
 - 2.7. Body furniture and hardware
 - 2.8. Glazing
 - 2.9. Door units
 - 2.10. Mechanical components
 - 2.11. Electrical components

3. **Tools and equipment** are:
 - 3.1. hand tools
 - 3.2. manufacturer's specified and specialist tools
 - 3.3. workshop equipment
 - 3.4. lifting equipment

Glossary**Agreed timescales:**

Examples include: manufacturer's recommended work times, job times set by your company or a job time agreed with a specific customer.

Large Commercial and Passenger Vehicles:

These are medium and large goods vehicles, buses and coaches of 3500kgs gross vehicle mass (GVM) and above.

Sources of information:

Examples include: company procedures, assembly and detail drawings, data sheets, specifications, inspection sheets, vehicle records, workshop manuals, manufacturer's manuals and bulletins, wiring circuits and diagrams, repair schedules and insurance assessor reports, DVSA manual

IMICB04

Set-out and assemble large commercial and passenger vehicle body components or parts



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